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MEXICAN CLIMATOLOGICAL DATA.

Through the kind cooperation of Señor Mariano Bárcena, Director, and Señor José Zendejas, vice-director, of the Central Meteorologico-Magnetic Observatory, the monthly summaries of Mexican data are now communicated in manuscript, in advance of their publication in the *Boletin Mensual;* an abstract translated into English measures is here given in continuation of the similar tables published in the MONTHLY WEATHER REVIEW since 1896. The barometric means have not been reduced to standard gravity, but this correction will be given at some future date when the pressures are published on our Chart IV.

Mexican data for February, 1899.

Stations.	Altitude.	Mean barometer.	Temperature.			Relative humidity.	Precipitation.	Prevailing direction.	
			Max.	Min.	Mean.			Wind.	Cloud.
	Feet.	*Inch.*	°*F.*	°*F.*	°*F.*	%	*Inch.*		
Colima	1,656	28.30	86.9	49.3	70.0	58	.....	wsw.	sw.
Durango (Seminario)	6,243	24.39	80.6	26.6	54.9	34	.....	sw.	e.
Jalapa (1)	4,593	25.56	78.8	46.4	58.3	66	8.09	nw.	.....
Leon (Guanajuato)	5,934	24.28	74.4	30.4	57.6	34	.....	sw.	sw.
Magdalena (Sonora)	2,618	.....	.....	....	58.5	.....	0.91	s.	n.
Mexico (Obs. Cent.)	7,472	23.04	74.7	40.1	56.8	48	0.13	ne.	nw., sw.
Morelia (Seminario)	6,401	23.96	77.9	40.5	59.9	55	.....	sw.	sw.
Oaxaca	5,184	25.06	87.4	35.2	66.7	55	.....	se.	sw.
Puebla (Col. Cat.)	7,113	23.84	74.3	34.0	59.2	62	.....	sse.	.....
San Isidro	.....	.....	82.4	51.8	.....	.....	.....	w.	.....
Tuxpan (Vera Cruz)	19	30.00	98.2	29.8	67.3	79	2.66	nw., ne.	n.
Zapotlan (Seminario)	5,078	25.16	80.1	40.5	63.5	65	.....	sse.	wsw.

(1) The altitude of Jalapa differs from that formerly given, i. e., 4,757 feet, by 50 meters.

WAVE OR BILLOW CLOUDS.

ALFRED J. HENRY, Chief of Division.

A remarkably perfect type of wave or billow clouds, parallel bands or ridges, separated by a small space of clear sky, as a furrow separates the rows of grain in a field, was seen at Washington, D. C., at 8 a. m. November 23, 1898.

Plates I, II, III and IV have been reproduced from photographs made by the writer at 8:25, 8:30, 9:35 and 9:40 a. m., seventy-fifth meridian time, respectively. Plate I is a transverse view of the clouds as they approached from the southwest. The photograph from which the illustration was reproduced was made on the roof of the Weather Bureau building in Washington, D. C.

Plate II is a longitudinal view of the same clouds made in the same position but looking eastward, the camera being turned through an angle of about 90°.

Plates III and IV are views made about an hour later, viz, at 9:35 and 9:40 a. m. The position of the camera in the last-named views was not quite the same as those made earlier in the day, as may be seen by the horizon line.

The clouds were probably in the alto-cumulus level, possibly a little lower, and their apparent motion was rather rapid. The direction of the parallel bands, when first observed, was approximately east and west. Later it seemed to change slightly, taking a direction, say from north 80° west to south 80° east. The degradation of the clouds began about 9 o'clock; an hour later the last vestige had disappeared, although the sky was almost half covered with cirrus and cirro-stratus. The last named appear in Plate III and less distinctly in Plate IV.

In the lower left-hand corner of Plate II small, detached clouds may be seen. While looking at this portion of the sky at 9 a. m., a remarkably distinct file of five or six small clouds was observed in the rear of a larger cloud mass. In a moment a small cloud became visible directly in the rear of the file above referred to. It seemed to remain motionless for a few seconds, increasing in size meanwhile, and finally moving forward in the line of march, and this process was repeated until there were 12 small clouds moving forward in column formation where there had been but 5 or 6 originally. The clouds now began to decrease in size, and the formation of new clouds ceased.

The general weather conditions at the surface of the ground, as shown by the morning weather map of the 23d were as follows: An area of high pressure with cold, northwesterly winds was approaching from the west. Pressure was relatively low off the Carolina coast, 29.94 at Hatteras. It was snowing in western Pennsylvania and raining in the eastern part of the state as also in New Jersey. The rain had ceased at Washington, the wind having shifted from southeast to northwest at 9:30 p. m. of the 22d; the temperature at that hour was about 53°; it began to fall soon thereafter and continued falling during the night, reaching a minimum of 34°, from which point it had risen to 36° at the time the first photograph was made. The wind was blowing steadily from the northwest at a velocity of 12 miles per hour. Pressure was 30.10 inches, having risen 0.18 inch during the last twenty-four hours.

Plates V and VI show a somewhat similar cloud formation on January 27, 1899.

The clouds were moving toward the northeast, as in the case first mentioned. The weather conditions were also similar in many respects. An area of high pressure and lower temperature was approaching from the west. The storm, central the preceding morning in upper Michigan, had moved rapidly to the Gulf of St. Lawrence, accompanied by violent westerly gales on the lower Lakes. High northerly winds